Claims:

1. A method for the rapid typing or enumeration of microorganisms comprising:

immobilizing a capture antibody on a solid support;

contacting a said immobilized capture antibody with a sample;

contacting the contents of said sample with a predetermined amount of substrate, wherein metabolism of said substrate by the microorganisms produces a marker;

digesting the microorganisms;

adding a primary antibody specific to said marker;

adding a second antibody specific for said primary antibody; and conjugated to a reporter molecule;

detecting the reporter molecule conjugated to the second antibody; and

determining the type or quantity of microorganism present.

2. The method of claim 1, wherein the digestion of said microorganisms comprises cell lysis.

3. The method of claim 1, which is capable of detecting 1000 colony forming units per ml or less of said microorganism.

4. The method of claim 1, which is capable of detecting 100 colony forming units per ml or less of said microorganism.

5. The method of claim 1, wherein the sensitivity of said method is capable of detecting 10 colony forming units per ml or less of said microorganism.

6. The method of claim 1, wherein the type or enumeration of microorganisms is determined in less than two hours.

7. The method of claim 1, wherein the type or enumeration of microorganisms is determined in less than one hour.

8. The method of claim 1, wherein the reporter molecule is selected from the group consisting of: a bioluminescent protein, a chemiluminescent dye, a fluorescent dye, an enzyme, a latex particle, a magnetic particle, a radioisotope, a visible dye, and combinations thereof.

9. The method of claim 1, wherein the substrate is dimethylthiazolyldiphenyl tetrazolium, iodonitrotetrazolium, nitrotetrazolium blue, or triphenyltetrazolium.

10. The method of claim 1, wherein the microorganism comprises one or more species of bacteria.

11. The method of claim 1, wherein the sample is selected from the group consisting of a bodily fluid, a blood sample, a clinical sample, a cosmetic sample, an environmental sample, a food sample, an industrial sample, pharmaceutical sample, a tissue sample, a tissue homogenate, and combinations thereof.

12. The method of claim 1, wherein the microorganisms are digested prior to their contact with said capture antibody.

13. A method for the rapid typing or enumeration of microorganisms comprising:

immobilizing a capture antibody on a solid support;

contacting a said immobilized capture antibody with a sample;

contacting the contents of said sample with a predetermined amount of substrate, wherein metabolism of said substrate by the microorganisms produces a marker;

digesting the microorganisms;

adding a primary antibody specific to said marker;

detecting said primary antibody bound to said marker; and

determining the type number of microorganisms present in said sample.

14. The method of claim 13, wherein the digestion of said microorganisms comprises cell lysis.

15. The method of claim 13, which is capable of detecting 1000 colony forming units or less of said microorganism.

16. The method of claim 13, which is capable of detecting 100 colony forming units or less of said microorganism.

17. The method of claim 13, wherein the sensitivity of said method is capable of detecting 10 colony forming units or less of said microorganism.

18. The method of claim 13, wherein the type or enumeration of microorganisms is determined in less than two hours.

19. The method of claim 13, wherein the type or enumeration of microorganisms is determined in less than one hour.

20. The method of claim 13, wherein the substrate is dimethylthiazolyldiphenyl tetrazolium, iodonitrotetrazolium, nitrotetrazolium blue, or triphenyltetrazolium.

21. The method of claim 13, wherein the microorganism is one or more species of bacteria.

22. The method of claim 13, wherein the sample is selected from the group consisting of a bodily fluid, a blood sample, a clinical sample, a cosmetic sample, an environmental sample, a food sample, an industrial sample, pharmaceutical sample, a tissue sample, a tissue homogenate, and combinations thereof.

23. The method of claim 13, wherein the microorganisms are digested prior to contact with the capture antibody.

24. The method of claim 13, wherein the primary antibody is conjugated to a reporter molecule.

25. The method of claim 24, wherein the reporter molecule is selected from the group consisting of: a bioluminescent protein, a chemiluminescent dye, a fluorescent dye, an enzyme, a latex particle, a magnetic particle, a radioisotope, a visible dye, and combinations thereof.

26. A kit for the rapid detection or enumeration of microscopic organisms comprising:

a solid support;

capture antibodies affixed to said solid support;

a soluble substrate which upon uptake by actively respiring organisms is metabolized to a water-insoluble molecule;

a primary antibody specific for said water-insoluble molecule; and

a second antibody specific for said primary antibody and conjugated to a reporter molecule.

27. The kit of claim 26, wherein the solid support is supplied with said capture antibodies immobilized thereto.

28. The kit of claim 26, further comprising a wash buffer, a dilution buffer, and a digestion reagent.

29. The kit of claim 26, wherein the reporter molecule is selected from the group consisting of a bioluminescent protein, a chemiluminescent dye, a fluorescent dye, an enzyme, a latex particle, a magnetic particle, a radioisotope, a visible dye, and combinations thereof.

30. The kit of claim 26, wherein said reporter molecule comprises an enzyme.

31. The kit of claim 26, further comprising a nutrient media.

32. The kit of claim 31 wherein the nutrient media comprises a reducing sugar and a mild oxidizing agent

33. The kit of claim 32 wherein the mild oxidizing agent is NAD^+ and the reducing sugar is glucose.

34. A kit for the rapid detection or enumeration of microscopic organisms comprising:

a solid support;

capture antibodies affixed to said solid support;

a soluble substrate which upon uptake by actively respiring organisms is metabolized to a water-insoluble molecule; and

a primary antibody specific for said water-insoluble molecule.

35. The kit of claim 34, wherein the primary antibody is conjugated to a reporter molecule.